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105TH CONGRESS
2^D Session

H. R. 1903

[Report No. 105-412]

AN ACT

To amend the National Institute of Standards and Technology Act to enhance the ability of the National Institute of Standards and Technology to improve computer security, and for other purposes.

OCTOBER 13 (legislative day, OCTOBER 2), 1998
Reported without amendment

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IN THE SENATE OF THE UNITED STATES

SEPTEMBER 17, 1997

Received; read twice and referred to the Committee on Commerce, Science,
and Transportation

OCTOBER 13 (legislative day, OCTOBER 2), 1998

Reported by Mr. MCCAIN, without amendment

AN ACT

To amend the National Institute of Standards and Technology Act to enhance the ability of the National Institute of Standards and Technology to improve computer security, and for other purposes.

1 *Be it enacted by the Senate and House of Representa-*
2 *tives of the United States of America in Congress assembled,*

3 **SECTION 1. SHORT TITLE.**

4 This Act may be cited as the “Computer Security En-
5 hancement Act of 1997”.

6 **SEC. 2. FINDINGS AND PURPOSES.**

7 (a) FINDINGS.—The Congress finds the following:

1 (1) The National Institute of Standards and
2 Technology has responsibility for developing stand-
3 ards and guidelines needed to ensure the cost-effec-
4 tive security and privacy of sensitive information in
5 Federal computer systems.

6 (2) The Federal Government has an important
7 role in ensuring the protection of sensitive, but un-
8 classified, information controlled by Federal agen-
9 cies.

10 (3) Technology that is based on the application
11 of cryptography exists and can be readily provided
12 by private sector companies to ensure the confiden-
13 tiality, authenticity, and integrity of information as-
14 sociated with public and private activities.

15 (4) The development and use of encryption
16 technologies should be driven by market forces rath-
17 er than by Government imposed requirements.

18 (5) Federal policy for control of the export of
19 encryption technologies should be determined in
20 light of the public availability of comparable
21 encryption technologies outside of the United States
22 in order to avoid harming the competitiveness of
23 United States computer hardware and software com-
24 panies.

25 (b) PURPOSES.—The purposes of this Act are to—

1 (1) reinforce the role of the National Institute
2 of Standards and Technology in ensuring the secu-
3 rity of unclassified information in Federal computer
4 systems;

5 (2) promote technology solutions based on pri-
6 vate sector offerings to protect the security of Fed-
7 eral computer systems; and

8 (3) provide the assessment of the capabilities of
9 information security products incorporating cryptog-
10 raphy that are generally available outside the United
11 States.

12 **SEC. 3. VOLUNTARY STANDARDS FOR PUBLIC KEY MAN-**
13 **AGEMENT INFRASTRUCTURE.**

14 Section 20(b) of the National Institute of Standards
15 and Technology Act (15 U.S.C. 278g–3(b)) is amended—

16 (1) by redesignating paragraphs (2), (3), (4),
17 and (5) as paragraphs (3), (4), (7), and (8), respec-
18 tively; and

19 (2) by inserting after paragraph (1) the follow-
20 ing new paragraph:

21 “(2) upon request from the private sector, to
22 assist in establishing voluntary interoperable stand-
23 ards, guidelines, and associated methods and tech-
24 niques to facilitate and expedite the establishment of
25 non-Federal management infrastructures for public

1 keys that can be used to communicate with and con-
 2 duct transactions with the Federal Government;”.

3 **SEC. 4. SECURITY OF FEDERAL COMPUTERS AND NET-**
 4 **WORKS.**

5 Section 20(b) of the National Institute of Standards
 6 and Technology Act (15 U.S.C. 278g–3(b)), as amended
 7 by section 3 of this Act, is further amended by inserting
 8 after paragraph (4), as so redesignated by section 3(1)
 9 of this Act, the following new paragraphs:

10 “(5) to provide guidance and assistance to Fed-
 11 eral agencies in the protection of interconnected
 12 computer systems and to coordinate Federal re-
 13 sponse efforts related to unauthorized access to Fed-
 14 eral computer systems;

15 “(6) to perform evaluations and tests of—

16 “(A) information technologies to assess se-
 17 curity vulnerabilities; and

18 “(B) commercially available security prod-
 19 ucts for their suitability for use by Federal
 20 agencies for protecting sensitive information in
 21 computer systems;”.

22 **SEC. 5. COMPUTER SECURITY IMPLEMENTATION.**

23 Section 20 of the National Institute of Standards and
 24 Technology Act (15 U.S.C. 278g–3) is further amended—

1 (1) by redesignating subsections (c) and (d) as
2 subsections (e) and (f), respectively; and

3 (2) by inserting after subsection (b) the follow-
4 ing new subsection:

5 “(c) In carrying out subsection (a)(3), the Institute
6 shall—

7 “(1) emphasize the development of technology-
8 neutral policy guidelines for computer security prac-
9 tices by the Federal agencies;

10 “(2) actively promote the use of commercially
11 available products to provide for the security and
12 privacy of sensitive information in Federal computer
13 systems; and

14 “(3) participate in implementations of
15 encryption technologies in order to develop required
16 standards and guidelines for Federal computer sys-
17 tems, including assessing the desirability of and the
18 costs associated with establishing and managing key
19 recovery infrastructures for Federal Government in-
20 formation.”.

21 **SEC. 6. COMPUTER SECURITY REVIEW, PUBLIC MEETINGS,**
22 **AND INFORMATION.**

23 Section 20 of the National Institute of Standards and
24 Technology Act (15 U.S.C. 278g–3), as amended by this
25 Act, is further amended by inserting after subsection (c),

1 as added by section 5 of this Act, the following new sub-
2 section:

3 “(d)(1) The Institute shall solicit the recommenda-
4 tions of the Computer System Security and Privacy Advi-
5 sory Board, established by section 21, regarding standards
6 and guidelines that are being considered for submittal to
7 the Secretary of Commerce in accordance with subsection
8 (a)(4). No standards or guidelines shall be submitted to
9 the Secretary prior to the receipt by the Institute of the
10 Board’s written recommendations. The recommendations
11 of the Board shall accompany standards and guidelines
12 submitted to the Secretary.

13 “(2) There are authorized to be appropriated to the
14 Secretary of Commerce \$1,000,000 for fiscal year 1998
15 and \$1,030,000 for fiscal year 1999 to enable the Com-
16 puter System Security and Privacy Advisory Board, estab-
17 lished by section 21, to identify emerging issues related
18 to computer security, privacy, and cryptography and to
19 convene public meetings on those subjects, receive presen-
20 tations, and publish reports, digests, and summaries for
21 public distribution on those subjects.”.

22 **SEC. 7. LIMITATION ON PARTICIPATION IN REQUIRING**
23 **ENCRYPTION STANDARDS.**

24 Section 20 of the National Institute of Standards and
25 Technology Act (15 U.S.C. 278g–3), as amended by this

1 Act, is further amended by adding at the end the following
2 new subsection:

3 “(g) The Institute shall not promulgate, enforce, or
4 otherwise adopt standards, or carry out activities or poli-
5 cies, for the Federal establishment of encryption standards
6 required for use in computer systems other than Federal
7 Government computer systems.”.

8 **SEC. 8. MISCELLANEOUS AMENDMENTS.**

9 Section 20 of the National Institute of Standards and
10 Technology Act (15 U.S.C. 278g–3), as amended by this
11 Act, is further amended—

12 (1) in subsection (b)(8), as so redesignated by
13 section 3(1) of this Act, by inserting “to the extent
14 that such coordination will improve computer secu-
15 rity and to the extent necessary for improving such
16 security for Federal computer systems” after “Man-
17 agement and Budget)”;

18 (2) in subsection (e), as so redesignated by sec-
19 tion 5(1) of this Act, by striking “shall draw upon”
20 and inserting in lieu thereof “may draw upon”;

21 (3) in subsection (e)(2), as so redesignated by
22 section 5(1) of this Act, by striking “(b)(5)” and in-
23 serting in lieu thereof “(b)(8)”; and

1 (4) in subsection (f)(1)(B)(i), as so redesign-
2 nated by section 5(1) of this Act, by inserting “and
3 computer networks” after “computers”.

4 **SEC. 9. FEDERAL COMPUTER SYSTEM SECURITY TRAINING.**

5 Section 5(b) of the Computer Security Act of 1987
6 (49 U.S.C. 759 note) is amended—

7 (1) by striking “and” at the end of paragraph
8 (1);

9 (2) by striking the period at the end of para-
10 graph (2) and inserting in lieu thereof “; and”; and

11 (3) by adding at the end the following new
12 paragraph:

13 “(3) to include emphasis on protecting sensitive
14 information in Federal databases and Federal com-
15 puter sites that are accessible through public net-
16 works.”.

17 **SEC. 10. COMPUTER SECURITY FELLOWSHIP PROGRAM.**

18 There are authorized to be appropriated to the Sec-
19 retary of Commerce \$250,000 for fiscal year 1998 and
20 \$500,000 for fiscal year 1999 for the Director of the Na-
21 tional Institute of Standards and Technology for fellow-
22 ships, subject to the provisions of section 18 of the Na-
23 tional Institute of Standards and Technology Act (15
24 U.S.C. 278g–1), to support students at institutions of
25 higher learning in computer security. Amounts authorized

1 by this section shall not be subject to the percentage limi-
2 tation stated in such section 18.

3 **SEC. 11. STUDY OF PUBLIC KEY INFRASTRUCTURE BY THE**
4 **NATIONAL RESEARCH COUNCIL.**

5 (a) REVIEW BY NATIONAL RESEARCH COUNCIL.—
6 Not later than 90 days after the date of the enactment
7 of this Act, the Secretary of Commerce shall enter into
8 a contract with the National Research Council of the Na-
9 tional Academy of Sciences to conduct a study of public
10 key infrastructures for use by individuals, businesses, and
11 government.

12 (b) CONTENTS.—The study referred to in subsection
13 (a) shall—

14 (1) assess technology needed to support public
15 key infrastructures;

16 (2) assess current public and private plans for
17 the deployment of public key infrastructures;

18 (3) assess interoperability, scalability, and in-
19 tegrity of private and public entities that are ele-
20 ments of public key infrastructures;

21 (4) make recommendations for Federal legisla-
22 tion and other Federal actions required to ensure
23 the national feasibility and utility of public key in-
24 frastructures; and

1 (5) address such other matters as the National
2 Research Council considers relevant to the issues of
3 public key infrastructure.

4 (c) INTERAGENCY COOPERATION WITH STUDY.—All
5 agencies of the Federal Government shall cooperate fully
6 with the National Research Council in its activities in car-
7 rying out the study under this section, including access
8 by properly cleared individuals to classified information if
9 necessary.

10 (d) REPORT.—Not later than 18 months after the
11 date of the enactment of this Act, the Secretary of Com-
12 merce shall transmit to the Committee on Science of the
13 House of Representatives and the Committee on Com-
14 merce, Science, and Transportation of the Senate a report
15 setting forth the findings, conclusions, and recommenda-
16 tions of the National Research Council for public policy
17 related to public key infrastructures for use by individuals,
18 businesses, and government. Such report shall be submit-
19 ted in unclassified form.

20 (e) AUTHORIZATION OF APPROPRIATIONS.—There
21 are authorized to be appropriated to the Secretary of Com-
22 merce \$450,000 for fiscal year 1998, to remain available
23 until expended, for carrying out this section.

1 **SEC. 12. PROMOTION OF NATIONAL INFORMATION SECUR-**
2 **RITY.**

3 The Under Secretary of Commerce for Technology
4 shall—

5 (1) promote the more widespread use of appli-
6 cations of cryptography and associated technologies
7 to enhance the security of the Nation's information
8 infrastructure;

9 (2) establish a central clearinghouse for the col-
10 lection by the Federal Government and dissemina-
11 tion to the public of information to promote aware-
12 ness of information security threats; and

13 (3) promote the development of the national,
14 standards-based infrastructure needed to support
15 commercial and private uses of encryption tech-
16 nologies for confidentiality and authentication.

17 **SEC. 13. DIGITAL SIGNATURE INFRASTRUCTURE.**

18 (a) NATIONAL POLICY PANEL.—The Under Sec-
19 retary of Commerce for Technology shall establish a Na-
20 tional Policy Panel for Digital Signatures. The Panel shall
21 be composed of nongovernment and government technical
22 and legal experts on the implementation of digital signa-
23 ture technologies, individuals from companies offering dig-
24 ital signature products and services, State officials, includ-
25 ing officials from States which have enacted statutes es-

1 tablishing digital signature infrastructures, and represent-
2 ative individuals from the interested public.

3 (b) RESPONSIBILITIES.—The Panel established
4 under subsection (a) shall serve as a forum for exploring
5 all relevant factors associated with the development of a
6 national digital signature infrastructure based on uniform
7 standards that will enable the widespread availability and
8 use of digital signature systems. The Panel shall develop—

9 (1) model practices and procedures for certifi-
10 cation authorities to ensure accuracy, reliability, and
11 security of operations associated with issuing and
12 managing certificates;

13 (2) standards to ensure consistency among ju-
14 risdictions that license certification authorities; and

15 (3) audit standards for certification authorities.

16 (c) ADMINISTRATIVE SUPPORT.—The Under Sec-
17 retary of Commerce for Technology shall provide adminis-
18 trative support to the Panel established under subsection
19 (a) of this section as necessary to enable the Panel to
20 carry out its responsibilities.

21 **SEC. 14. SOURCE OF AUTHORIZATIONS.**

22 Amounts authorized to be appropriated by this Act
23 shall be derived from amounts authorized under the Na-
24 tional Institute of Standards and Technology Authoriza-
25 tion Act of 1997.